FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-7420 OLYMPIC PIPE LINE COMPANY

GENERAL INFORMATION			
Applicant	Olympic Pipe Line Company		
Facility Name and Address	3201 Arbor Court Bellingham, WA 98226		
Type of Facility	Groundwater Remediation		
Facility Discharge Location	Section 8, T 28 N, R 3 E, SE 1/4, SW ¹ / ₄ Latitude: 48° 45' 0.65" N Longitude: 122° 25' 53.6" W		
Discharge Location	Outfall 001: Bioremediation via subsurface injection with sulfate solution in the plume area Outfall 002: City of Bellingham POTW		
Contact at Facility	Name: Eric Larsen Telephone #: (425) 498-7718		
Responsible Official	Name: Neil Norcross, Project Manager		

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-7420. The Department of Ecology (the Department) is proposing to issue this permit, which will allow bioremediation via subsurface injection with sulfate solution in the plume area and also to discharge pretreated wastewater to the City of Bellingham's POTW.

This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the waste water, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities, which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—<u>Public Involvement Information</u>. Process Flow Diagrams are enclosed in Appendix B.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Changes to the permit will be addressed in Appendix C—Response to Comments.



Figure 1. Vicinity Map

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Olympic Pipe Line Company has an underground 16-inch diameter pipeline which ruptured on June 10, 1999. Approximately 277,000 gallons of unleaded gasoline were released from the ruptured pipeline. The pipeline release on June 10, 1999, occurred in proximity to property occupied by the Bellingham Water Treatment Plant. The pipeline rupture occurred in immediate proximity to the Dakin-Yew Pump Station and within a complex network of underground utilities related to the water treatment plant (see Figures 1 and 2). The product emerged from the pipeline to the ground surface, flowed overland to nearby Hannah Creek, and then followed Hannah Creek to enter Whatcom Creek, within the limits of Whatcom Falls Park. Ignition of the fuel occurred within the park, resulting in a fire that spread upstream to the source and downstream to the limits of the gasoline spill. Portions of gasoline release entered the subsurface and became trapped within subsurface materials including construction-related bedrock. The release area is further complicated by a complex network of belowground water pipelines, and utility conduits associated with the infrastructure of the water treatment plant (see Figure 2).

Soil excavation was performed between July and October 1999 to remove hydrocarbon-impacted soil. This excavation was complicated by the necessity to work around belowground water and utility conduits without interruption of operation of the water treatment facility or supply of water to the city of Bellingham. As such, it was not feasible to excavate all the petroleum-impacted soil located in the vicinity of pipelines, valves, and other related equipment. Excavation efforts were further limited to materials above the bedrock units, leaving hydrocarbon impact that had migrated downward into fractured sandstone and siltstone in some locations within the release area.

The original remediation system at the Whatcom Creek site consisted of three separate units. These units were a soil vapor extraction (SVE) unit for removal of residual hydrocarbons, an air sparging (AS) unit for in-situ treatment of impacted groundwater, and a pump-and-treat unit for capture and treatment of impacted groundwater. The pump-and-treat unit also operates to hydraulically prevent impacted groundwater from migrating to Whatcom Creek through a series of seep locations adjacent to the site (refer to Figure 2). The treatment units of the remedial system were designed for independent or integrated operation. Extraction wells for SVE, air sparge points for AS, and recovery wells for free product/groundwater capture (associated with the pump-and-treat unit) were distributed throughout the site targeting residual petroleum and impacted groundwater (refer to Figure 3). Aboveground equipment associated with the remediation system is situated in a fenced area adjacent to the site. A treatment building is located within the fenced area for specific equipment and storage. The location of remediation system components and the layout of the remediation system are depicted in modified aerial photos and system as-built drawings in Figures 2-6.

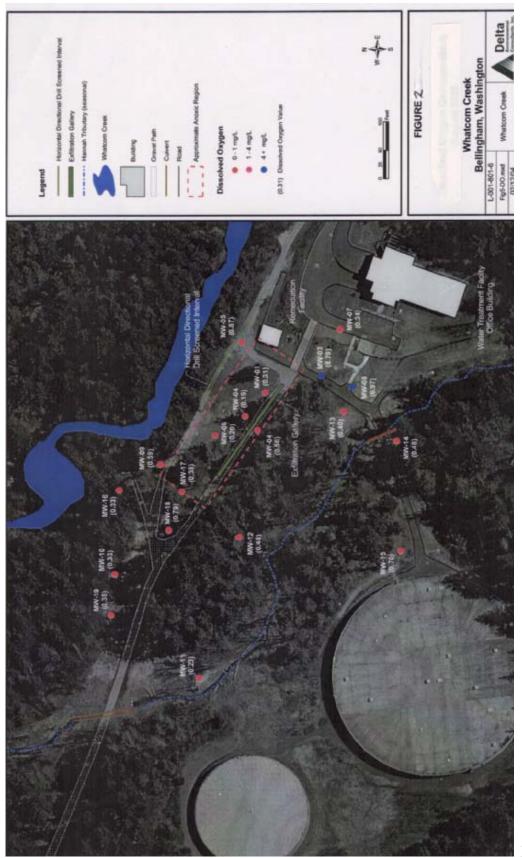


Figure 2.

The SVE system began operation in January 2000. By October 14, 2002, the SVE unit was no longer recovering significant hydrocarbon vapors and operations were terminated. The SVE unit's thermal oxidizer and manifold were effectively decommissioned and removed from the site in October 2004. Air sparging was initiated in January 2001. Air sparging at air sparge point AS-09 ceased in June 2003 in conjunction with the sulfate amendment pilot study. Air sparging continues at the remainder of the air sparge points. Pump-and-treat operations ceased on all wells on October 14, 2002, with the exception of recovery well RW-01, until August 16, 2004, when operations at DW/VE-11 were resumed. Current operation of the pump-and-treat unit extracts from the recovery wells RW-01 and DW/VE-11.

In addition to the remedial activities associated with the pump-and-treat, SVE and AS units, a sulfate amendment pilot study was begun on-site on June 2, 2003. In April 2003, a 200-foot long, 4-foot deep exfiltration gallery was constructed for the injection of aqueous disodium sulfate into the hydrocarbon impacted plume (refer to Figure 3). A number of recent studies had demonstrated the promise of utilizing sulfate reducing bacteria (SRB) to biologically degrade dissolved hydrocarbon constituents. The advantage of SRB is its ability to thrive in anoxic environments to utilize hydrocarbon constituents as a primary, as opposed to a secondary, metabolite. Sulfate amendment at Whatcom Creek incident site should help facilitate the action of sulfate reducing bacteria (SRB) in remediating the dissolved hydrocarbon plume.

REMEDIATION SYSTEM DESCRIPTION

The remediation system components are described in the following section:

Recovery Wells and Conveyance Piping

Conveyance piping connects the aboveground treatment equipment for each remediation unit to the associated recovery wells, SVE wells, or (AS) points (refer to Figures 3 and 4). The conveyance piping includes air and water discharge tubing to pneumatic pumps in each recovery well, SVE piping to each SVE well, and AS conveyance piping to each AS point. The conveyance piping for each unit (pump-and-treat, vapor extraction, and air sparging) is belowground and transitions aboveground inside the fenced area and connects with various manifolds to connect with treatment equipment. The following list itemizes and details the recovery wells, SVE wells, and AS points found at the Whatcom Creek site:

• The pump-and-treat system currently operates primarily on one recovery well, RW-01, to capture and treat impacted groundwater and hydraulically control potential migration to Whatcom Creek. The RW-01 recovery well consists of a 12-inch recovery well drilled to a depth of 37 feet below ground surface (BGS). The RW-01 recovery intercepts a 400-foot-long horizontal interceptor drain (HDD) at a depth of approximately 31 feet. The horizontal interceptor drain enhances the capture of impacted ground water. Recoverable free product has not been present in this component of the system since December 1999.

- Groundwater capture for the pump-and-treat unit also occurred from five vertical recovery/dewatering wells (RW-04, DW/VE-03, DW/VE-06, DW/VE-11 and DW/VE-16) prior to October 14, 2002. Groundwater capture within these wells occurred in conjunction with the operation of the soil vapor extraction (SVE) unit. Recovery efforts ceased with shut down of the SVE unit on October 14, 2002. Recovery efforts at DW/VE-11 were resumed on August 16, 2004.
- Previous SVE operations occurred from 19 vertical SVE wells (VE-01, VE-02, DW/VE-03, VE-04, VE-05, DW/VW-06, VE-07, VE-08, VE-09, VE-10, DW/VW-11, VE-12, VE-13, VE-15, DW/VE-16, VE-17, VE-18, VE-19) and one horizontal vapor extraction line (HVE). As previously noted, operation of the SVE unit ceased on October 14, 2002, and the thermal oxidizer and manifold were removed from the site in October 2004.
- AS operations have occurred in nine AS points (AS-01 through AS-09). Sparging at point AS-09 was discontinued in June 2003 in conjunction with the sulfate amendment pilot study. The AS unit currently continues to operate on the remaining AS points (AS-01 through AS-08). The AS unit injects atmospheric air into air sparging points which causes volatilization of residual hydrocarbon contained in the subsurface soil and ground water. The AS unit also supplies oxygen to ground water which helps facilitate aerobic biodegradation of hydrocarbon constituents.

Sulfate Injection (Exfiltration) Gallery

A 1,000-gallon discharge tank (refer to Figure 5) is used periodically to mix the sulfate solution. Water for this application is obtained from a portion of the discharge water leaving the water treatment unit. Nitrogen is then applied to the sulfate solution through a bubbler pipe to remove dissolved oxygen prior to injection. A portable pump with tubing is used to inject the solution into the exfiltration gallery (refer to Figures 3 and 4). A flush-mounted well cover over the exfiltration gallery encases two PVC pipe stubs that are inlets for the injection of sulfate solution. Design and installation of a permanent sulfate injection unit is anticipated following the conclusion of the sulfate injection pilot study in 2005.

Pump-and-Treat Unit

The process flow diagram for the pump-and-treat unit is illustrated in Figure 6. Ground water (and free product, if any) from the recovery wells is pumped to an oil/water separator. Any free product recovered is transferred by gravity from the oil/water separator to a product holding tank. The product-holding tank is fitted with secondary containment and a high-level alarm switch. The level of free product in the holding tank is periodically measured and, as necessary, removed from the holding tank and transferred off site for recycling or reprocessing by a licensed waste handler. The unit has not recovered free product since December 1999. The oil/water separator and product holding tank are vented to the atmosphere.

Water from the oil/water separator flows by gravity into a batch tank. The batch tank contains low and high level switches that activate the operation of a transfer pump. The transfer pump conveys recovered groundwater to the air stripper for treatment.

The ground water percolates by gravity through a series of weirs and trays before collecting in a sump in the bottom of the air stripper. The air stripper sump contains low and high level switches that activate the effluent pump. The air stripper sump also contains a high-level alarm switch (float) which initiates system shutdown and an alarm condition when activated. This alarm condition would occur on failure or faulty operation of the effluent pump. As water percolates through the air stripper, the air stream removes volatile petroleum constituents in accordance with Henry's law. The treated ground water is partially used for the make up of sulfate solution, and the remaining water is discharged to the sanitary sewer system.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the discharge monitoring reports during the previous permit term, between July 2000 and May 2005. The reported concentrations for pollutants in the effluent that are regulated in this permit are as follows:

Injection Gallery

Parameter	Reported Concentrations Range
Application Rate	1000 gpd
Sulfate (into subsurface)	245-500 mg/L
Lead	$0.001 - 1.58 \mu \text{g/L}$

Discharge to POTW

Parameter	Reported Concentrations Range
Flow	500 – 23,500 gpd
Benzene	$1-3.07~\mu g/L$
Lead	$0.001 - 2.03 \mu \text{g/L}$
рН	7.1 – 8.8 s. u.
TPH-D	$0.05 - 0.08 \mu g/L$

Groundwater Monitoring Wells - Reported Concentrations Range

Parameter	MW1	MW6	MW8	MW17	RW4
Benzene, µg/L	7.7 – 9500	21.3 – 2793	4.6 - 28562	6.3 – 6944	95 – 3598
TSS, mg/L	120 – 223	109 – 310	110 – 300	164 – 394	160 – 310
Sulfate, µg/L	0.64 – 13.6	2.8 – 68.6	0.08 - 347	0.42 - 21.8	45.4 – 52.4
TPH-G, μg/L	9.8 – 37.4	0.57 - 12.2	0.08 - 347	0.42 - 21.8	0.37 – 16.9

PERMIT STATUS

The previous permit for this facility was issued on June 30, 2000. The previous permit placed effluent limitations on the bioremediation project as follows: application rate for sulfate injection, sulfate concentration into subsurface, sulfate concentration within plume area and total dissolved solids. The effluent limits for discharging to POTW are as follows: flow, pH, benzene, BTEX, and TPH-G.

An application for permit renewal was submitted to the Department on October 27, 2004, and accepted by the Department on March 24, 2005.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility received its last inspection with sampling on February 9, 2005. During the history of the previous permit, the Permittee has been in compliance with the conditions set forth in the permit.

POTW'S RECEIVING WATER

The treated groundwater will be ultimately discharged to Bellingham Bay after receiving secondary treatment from the Bellingham POTW's Sewage Treatment Plant. The Bellingham POTW is regulated under NPDES Permit No. WA-002374-4 for their secondary treatment oxygen activated sludge plant. The plant has a design capacity of 37 MGD for secondary treatment and it is currently operating at an average flow of the maximum month of 20 MGD.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The minimum requirements to demonstrate compliance with the AKART standard and specific design criteria for this facility were determined in the submitted permit application package on November 1, 1999.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). The Department has determined that the proposed wastewater is similar in characteristics to the wastewater from Leaking Underground Storage Tank (LUST) Cleanup Sites.

Discharge to POTW:

For discharging to the City of Bellingham's sanitary sewer system, the technology-based standards for LUST Cleanup sites will be applied to the facility's discharge as follows:

<u>Parameter</u>	Effluent Limits, Maximum Daily
Flow	36,000 gpd
Benzene	5 μg/L
TPH-G	1 mg/L
BTEX	100 μg/L

BTEX means Benzene, Toluene, Ethyl Benzene, and total Xylenes.

These proposed effluent limits were the same as those set forth in the previous permit.

No effluent limit for lead is set at this time. Monitoring is required only.

For In-situ Bioremediation:

For in-situ bioremediation via sulfate solution injection into subsurface infiltration gallery to enhance biodegradation of petroleum-contaminants within the plume, the following technology-based standards will be imposed in the permit.

<u>Parameter</u>	Effluent Limits, Maximum Daily
Application rate	1,000 gpd
Sulfate into subsurfac	e 500 mg/L

The facility is required to meet a sulfate limit of 250 mg/L at monitoring wells located within the plume. In addition, it is recommended that the Permittee: 1) use treated water from the pump and treat operation for the make up of sulfate solution; 2) monitor the sulfate concentration at the edge of the plume. At no time is the Permittee authorized to exceed the sulfate ground water standard.

The above technology-based effluent limitations are necessary to satisfy the requirement for AKART.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect the City of Bellingham's POTW (POTW) from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary.

These limitations are based on local limits established by the POTW and codified in ordinance. Applicable limits for this discharge include the following:

pH between 6 and 10 standard units

Pollutant concentrations in the proposed discharge with technology-based controls in place are not expected to cause problems at the receiving POTW, such as interference, pass-through or hazardous exposure to POTW workers, nor are they expected to result in unacceptable pollutant levels in the POTW's sludge.

GROUNDWATER EFFLUENT LIMITATIONS

The Department has promulgated ground water quality standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department are required to be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

For the in-situ bioremediation operation, the groundwater standards proposed in this permit are as follows:

<u>Parameter</u>	Maximum Daily
Sulfate (within plume area)	250 mg/L
Total dissolved solids	500 mg/L

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies takes into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify appropriate reporting and record keeping requirements to prevent and control waste discharges [WAC 273-216-110 and 40 CFR 403.12 (e),(g), and (h)].

OPERATIONS AND MAINTENANCE

The proposed permit contains Condition S4 as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

SPILL PLAN

The Permittee may be storing a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent accidental releases under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs.

GROUND WATER QUALITY EVALUATION

In accordance with WAC 173-200-080, the permit requires the Permittee to prepare and submit an annual ground water quality report for departmental review. The report shall document in plan view the benzene ground water contamination plume and shall contain an evaluation of the effectiveness of the treatment system.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G12 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. To be consistent with statewide planning efforts, the Department proposes that the permit be issued for a period of five (5) years. Therefore, this permit will be issued with an expiration date of June 30, 2010.

REFERENCES FOR TEXT AND APPENDICES

- 1. EPA Report, EPA/600/2-88/014. A selective guide for volatization technologies for water treatment.
- 2. *Operation and Maintenance Manual*, draft February 28, 2005.
- 3. State Waste Discharge Permit Application submitted by Olympic Pipe Line Company on October 27, 2004.
- 4. State Waste Discharge Permit Program, Chapter 173-216, May 1988.

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to issue a new permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department published a Public Notice of Draft (PNOD) on September 3, 2005, in *The Bellingham Herald* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator Department of Ecology Northwest Regional Office 3190 - 160th Avenue SE Bellevue, WA 98008-5472

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 425-649-7201 or by writing to the address listed above.

This permit and fact sheet were written by Jeanne Tran, P. E.

APPENDIX B—REMEDIATION SYSTEM LOCATION AND PROCESS FLOW DIAGRAM

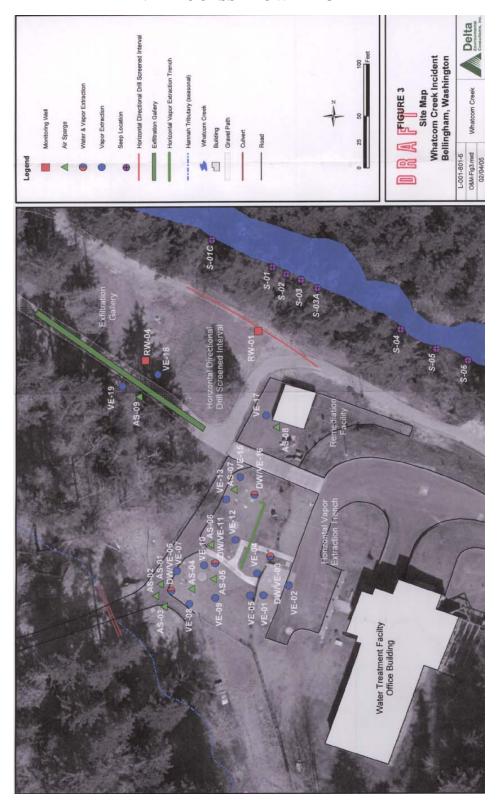


Figure 3.

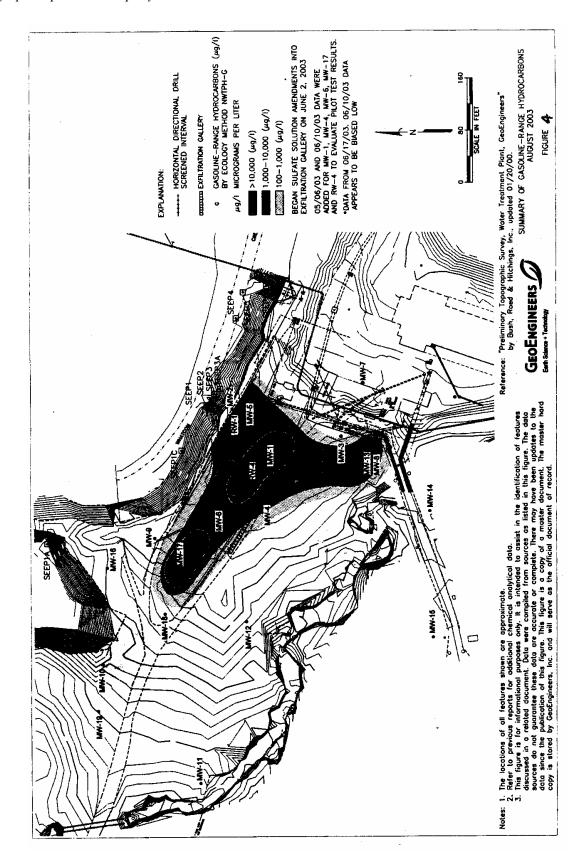


Figure 4.

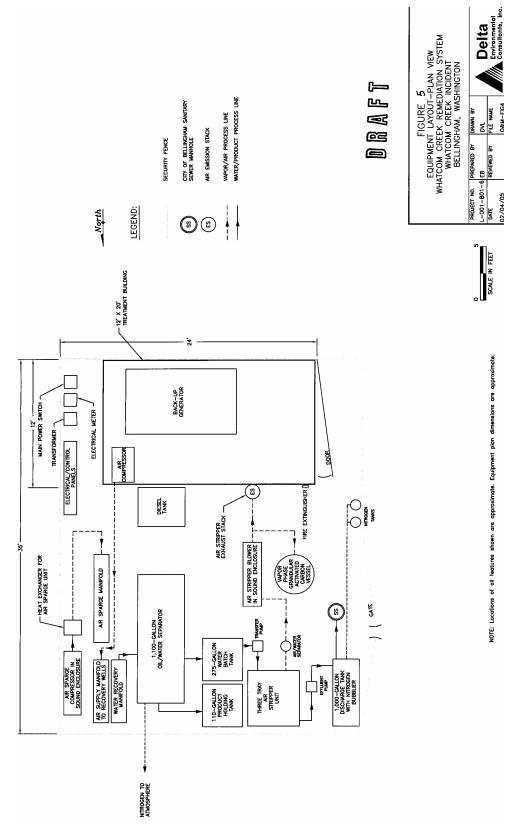


Figure 5.

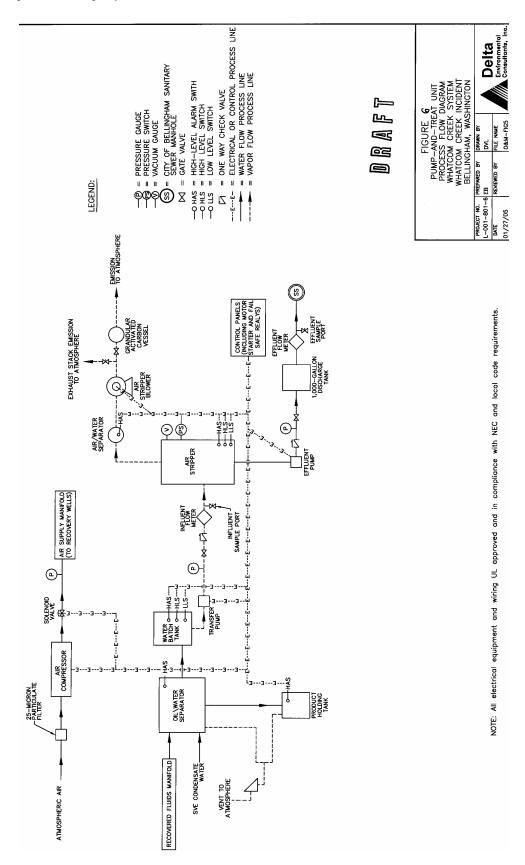


Figure 6

APPENDIX C—RESPONSE TO COMMENTS



STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

August 25, 2005

Mr. Neil Norcross Olympic Pipe Line Company 2201 Lind Avenue S.W. Renton, WA 98055

Dear Mr. Norcross:

Re: Response to Comments Received on Draft

State Waste Discharge Permit No. ST-7420,

Olympic Pipe Line Company (OPLC) Whatcom Creek Remediation Site

Thank you for your comments on the above-referenced draft permit dated July 26, 2005. A thorough review has been made of your comments, and the Department offers the following responses.

Comment 1: Page 4 of 18: The first submittal date for the discharge monitoring report

should read July 30, 2005.

Response: The Department expects to issue your renewed permit by the end of

August. Since the submittal deadline is 30 days following the end of the reporting period (stated in S3.A), the first submittal date for the discharge

monitoring report will be changed to October 31, 2005.

Comment 2: Page 6 of 18: The last sentence of footnote "b" of Special Condition S2.A

in the proposed permit reads differently than the language in the expired permit. The old language read "...250 mg/L at the monitoring wells at the edge of the plume" whereas the proposed language reads "...250 mg/L at

the monitoring wells within the plume area."

Response: The reason for the proposed changes is to make the language consistent

with the language in the Limitations Table in Special Condition S1.A. Special Condition S1.A indicates that the maximum daily limit for sulfate is 250 mg/L within the plume area. This language is also consistent with

the language in the expired permit.

Mr. Neil Norcross August 25, 2005 Page 2

Comment 3: Page 1 of the Fact Sheet, under General Information: The phone number

for Eric Larsen is (425) 498-7718, and the responsible official is Neil

Norcross.

Response:

This information will be incorporated into the fact sheet.

If you have any questions, please contact me via e-mail at <u>jtra461@ecy.wa.gov</u> or by phone at (425) 649-7078.

Sincerely,

canne Tran, P.E.

Water Quality Program

JT:l1

cc: Norm Peck, Toxic Cleanup Program

Ken Oja, Delta Environmental Consultants Eric Larsen, Delta Environmental Consultants

File: WQ1.3